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JACOBSON & JOHNSON ONE WEST WATER STREET, SUITE 285 ST. PAUL, MN 55107			EXAMINER ALEJANDRO, RAYMOND	
			ART UNIT 1745	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/804,401

Applicant(s)

RATTE ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 and 22-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 03/18/04, 01/09/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Election/Restrictions***

1. Applicant's election with traverse of Group II (claims 6-21) in the reply filed on 05/14/07 is acknowledged. The traversal is on the ground(s) that "a search of the method of making battery parts should also include the art of battery parts and battery terminals". This is not found persuasive because the restriction requirement dated 04/26/07 set out three separate and distinct inventions identified as Groups I (claims 1-5) directed to a die cast terminal classed in 429/178, Group II (claims 6-21) directed to methods of making battery parts classed in 164/47; and Group III (claims 22-27) drawn to a lead/lead alloy battery part classed in class 204/279.

In establishing the burden, the examiner relies first on the definition of distinct or independent inventions by virtue of the relationship between Groups I, II and III, which were identified to be related as either process of making/product made, or combination and subcombination (See requirement for restriction dated 04/26/07); and second by the guidelines established in *MPEP 808.02 [R-3] Establishing Burden* setting forth that serious burden is present if at least one of following criteria is met: A) each invention has attained recognition in the art as a separate subject for inventive effort, and also a separate field of search (*Separate classification thereof*); and/or B) it is necessary to search for one of the inventions in a manner that is not likely to result in finding art pertinent to the other invention(s) (e.g., searching different classes /subclasses or electronic resources, or employing different search queries, a different field of search is shown, even though the two are classified together (*A different field of search*)); and/or C) each invention can be shown to have formed a separate subject for inventive effort when the examiner can show a recognition of separate inventive effort by

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inventors, this can be established by at least showing a separate field of search (*A separate status in the art when they are classifiable together*). In the instant case, Groups I, II and III meet at least criteria A) and B) above for the reasons expressed supra.

The requirement is still deemed proper and is therefore made **FINAL**.

#### ***Priority***

2. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 119(e).

#### ***Information Disclosure Statement***

4. The information disclosure statements (IDS) submitted on 03/18/04 and 01/09/06 were considered by the examiner.

#### ***Drawings***

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 15d (the description of Figure 1 at paragraph bridging pages 10-11 does not make reference to such a character). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet

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submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 20. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 60f and 61f (the description of Figure 7a at paragraph bridging pages 13-14 does not make reference to such characters). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 60f (not in Figure 7b as described in 1<sup>st</sup> full paragraph of page 14). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

9. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Objections***

10. Claim 7 is objected to because of the following informalities: the term “*batter*” in line 1 is misspelled. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 6-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Claim 6 recites the limitation “The method” in line 1. There is insufficient antecedent basis for this limitation in the claim. It should be changed to “A method”.

14. Claim 6 recites the limitation “a battery part” in line 2. There is insufficient antecedent basis for this limitation in the claim. It is noted that claim 1 contains an earlier recitation thereof in line 1.

15. Claim 7 recites the limitation “the set of annular acid rings” in line 4. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 8 recites the limitation “the battery terminal” in line 1. There is insufficient antecedent basis for this limitation in the claim. Claim 6, from which claim 8 depends, does not provide antecedent basis for such a limitation.

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17. Claim 9 recites the limitation "The method" in line 1. There is insufficient antecedent basis for this limitation in the claim. It should be changed to "A method" as apparently it is an independent claim.

18. The language term "an included angle" in claims 9 (lines 3-4) and claim 12 (lines 3-4) is of uncertain meaning, thereby rendering the claim indefinite. It is immediately unclear to the examiner what is meant by the term "included", and the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

19. Claim 19 recites the limitation "The method" in line 1. There is insufficient antecedent basis for this limitation in the claim. It should be changed to "A method" as apparently it is an independent claim.

### ***Double Patenting***

20. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.



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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

21. Claims 6-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 6-21 of copending Application No.

11/011362 (US Patent Application Publication US 2005/0147882). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons:

The copending application '362 claims the following (CLAIMS 6-21):

6. The method of making a battery part comprising:  
casting a battery part with an acid ring with the acid ring having at least one lip having a lateral surface and a beveled surface forming an acute angle with the lateral surface.
7. The method of making a battery part of claim 6 including the step of casting a battery terminal with a plurality of annular acid rings each having an annular lip separated by a groove located therebetween; and  
placing the battery terminal with the set of annular acid rings each having an annular lip amongst particles that randomly impinge on the side surfaces of the acid rings to flare the lips of the acid rings to thereby form a protrusion for engaging a container.
8. The method of claim 6 wherein the battery terminal is placed in a fluidized bed with particles having a hardness greater than the hardness of the battery terminal.
9. The method of making a battery terminal comprising the steps of:  
forming a plurality of acid rings each having a lip formed by a first lateral surface and a second surface with the first lateral surface and the second surface having an included angle less than 90 degrees.
10. The method of claim 9 wherein the method of making the battery terminal comprises casting the battery terminal in a mold.
11. The method of claim 9 including impacting the second surface to flare the lip on the acid ring to form a sealing region on the lateral surface of the lip.
12. The method of making a battery terminal of claim 9 including forming a second lip on the acid ring with the second lip having a first lateral surface and a second surface with the first lateral surface and the second surface of the second lip having an included angle less than 90 degrees.
13. The method of claim 9 including the making of the battery terminal from a lead alloy.
14. The method of claim 9 including impacting the second surfaces by radially striking the second surface to flare the lip to form a sealing bead on the lateral surface of the lip.
15. The method of claim 9 wherein the battery terminal is placed in a hopper containing free particles for randomly impinging on the second surface to thereby flare the lip.
16. The method of claim 9 wherein the second surface is impacted with a radial traveling peening member to thereby flare the lip to form a sealing bead on the lateral surface for engaging a battery container.

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17. The method of claim 12 wherein the second surface of the first lip and the second surface of the second lip are formed into a V-shaped groove.

18. The method of claim 17 including the forming at least three acid rings with each acid ring having at least two circumferential lips.

19. The method of die casting a battery terminal by flowing molten metal into a cavity formed by a radially movable side mold members and axially displaceable end mold members.

20. The method of claim 9 including the step of applying a radially compressive force sufficiently to flare the lip and form a sealing bead thereon but insufficient to bend the lip into a hook.

21. The method of claim 10 wherein the battery terminal is placed in a collet having a radius of curvature substantially the same as the radius of curvature of the acid ring and the collet is collapsed to radially compress the lip to form a sealing bead on the lateral surface of the lip.

*In this instance, the subject matter of the copending application fully anticipates the subject matter claimed in the present application.*

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### *Claim Rejections - 35 USC § 103*

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

25. Claims 6, 9-10, 12-13 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admission of Prior Art (herein the AAPA) (*Applicant's specification pages 2-7*) in view of the European publication EP 0601268 (heretofore the EP'268).

The objective of the present invention is directed to methods of making battery parts such as battery terminals comprising acid rings thereon.

In relation to claim 6 and 9:

The AAPA makes public that it is known to make battery parts such as battery terminals by cold forming or die casting; and the formation by molding of a set of acid rings located on the portion of the terminal part that is located within a container (*Applicant's specification pages 2-7*). Because the battery terminals are cast or cold formed the radially protruding acid rings are generally formed with either a rectangular cross-section shape or a slight outward taper to facilitate removal of the battery terminals from the mold (*Applicant's specification pages 2-7*).

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Disclosed is that while battery terminals have a generally rectangular cross-sectional shape are used other shaped acid rings have been used in order to prevent the container from shrinking away from the terminal and upsetting the interface between the battery part and the container which could cause leakage of electrolyte. Generally, acid rings provide lateral engagement between the acid rings and the container (*Applicant's specification pages 2-7*). The acid rings are shaped to form a lateral restraint between the battery container and the terminal (*Applicant's specification pages 2-7*).

In relation to claim 10:

The AAPA discloses casting battery terminals in a mold (*Applicant's specification pages 2-7*).

In relation to claims 13 and 19:

The AAPA makes reference to document US patent 6644084 which further makes known that a lead alloy is used to make the battery terminal; and the use of molten metal (i.e. lead) poured into a mold or casting (the cavity) and formed into a battery terminal (*Applicant's specification pages 2-7 and US'084 at COL 1, lines 15-35*).

In relation to claims 20-21:

The AAPA makes reference to document US patent 6644084 which further makes known that manufacture of battery terminals providing improved sealing properties for forming undercut rings thereon comprising a fixture, a rolling station and a drive assembly; the fixture is configured to securely position the battery terminal in the rolling station. It includes the step of securing the battery terminal within a fixture (the battery terminal placed in a collet); and the method also includes the step of transforming a ring on the battery terminal from a first shape

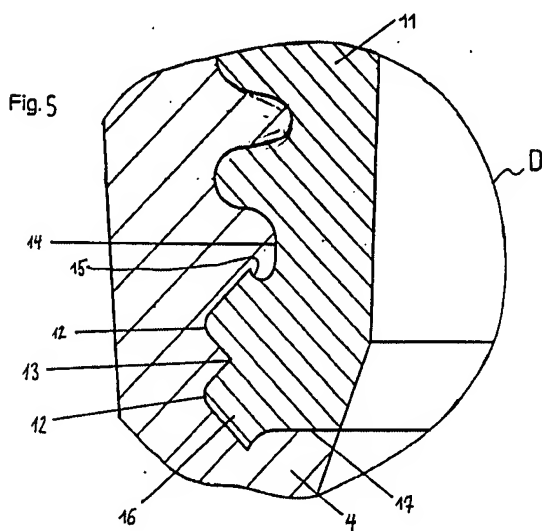
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into a second different shape with at least one undercut or overhang (*Applicant's specification pages 2-7 and US'084 at COL 2, lines 20-65*). A radial rolling station is used to cold roll formed the battery terminal into a finished battery terminal (*Applicant's specification pages 2-7 and US'084 at COL 4, lines 25-40*). Thus, the foregoing implies the application of a radially compressive form to shape the acid rings on the battery terminal.

The AAPA discloses method of making battery terminals as discussed above. However, the AAPA does not expressly disclose the specific shape (acute angle, or angle less than 90°, or V-shaped groove) of the acid rings on the battery terminal.

In relation to claims 6, 9, 12, 17-18:

The EP'268 discloses terminal for batteries wherein the terminal includes continuous grooves (the acid rings) which can be inserted into a battery case (ABSTRACT/COL 1, lines 30-55). Specifically, **Figure 5** depicts grooves on the battery terminal having an acute angle, or angle less than 90°, or V-shaped groove (See reference numerals 42-43 below). The groove has at least two lips (see reference numerals 42).



In view of the above, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to shape the acid rings on the battery terminal of the AAPA to have either an acute angle, or angle less than 90°, or V-shaped groove as taught by the EP'268 as the EP'268 teaches that such groove (angle) configuration facilitates sealing between the terminal and the battery accumulator. Thus, the specific shape of the grooves improves the sealing characteristics of the battery. Furthermore, this is consistent with the teachings of the AAPA that battery terminals are shaped to prevent the container from shrinking away from the terminal and upsetting the interface between the battery part and the container which could cause leakage of electrolyte. Generally, acid rings provide lateral engagement between the acid rings and the container (*Applicant's specification pages 2-7*) and are shaped to form a lateral restraint between the battery container and the terminal (*Applicant's specification pages 2-7*). Furthermore, it is noted changes in shape is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed acid rings (groove) is significant. *In re Dailey*, 149 USPQ 47. It is also noted that aesthetic design changes having no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art. *In re Seid*, 73 USPQ 431. (See MPEP 2144.04 [R-1] Legal Precedent as Source of Supporting Rationale).

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26. Claims 6, 9-10, 12-13 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admission of Prior Art (herein the AAPA) (*Applicant's specification pages 2-7*) in view of the German publication DE 4127956 (heretofore the GE'956).

The objective of the present invention is directed to methods of making battery parts such as battery terminals comprising acid rings thereon.

In relation to claim 6 and 9:

The AAPA makes public that it is known to make battery parts such as battery terminals by cold forming or die casting; and the formation by molding of a set of acid rings located on the portion of the terminal part that is located within a container (*Applicant's specification pages 2-7*). Because the battery terminals are cast or cold formed the radially protruding acid rings are generally formed with either a rectangular cross-section shape or a slight outward taper to facilitate removal of the battery terminals from the mold (*Applicant's specification pages 2-7*).

Disclosed is that while battery terminals have a generally rectangular cross-sectional shape are used other shaped acid rings have been used in order to prevent the container from shrinking away from the terminal and upsetting the interface between the battery part and the container which could cause leakage of electrolyte. Generally, acid rings provide lateral engagement between the acid rings and the container (*Applicant's specification pages 2-7*). The acid rings are shaped to form a lateral restraint between the battery container and the terminal (*Applicant's specification pages 2-7*).

In relation to claim 10:

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The AAPA discloses casting battery terminals in a mold (*Applicant's specification pages 2-7*).

In relation to claims 13 and 19:

The AAPA makes reference to document US patent 6644084 which further makes known that a lead alloy is used to make the battery terminal; and the use of molten metal (i.e. lead) poured into a mold or casting (the cavity) and formed into a battery terminal (*Applicant's specification pages 2-7 and US'084 at COL 1, lines 15-35*).

In relation to claims 20-21:

The AAPA makes reference to document US patent 6644084 which further makes known that manufacture of battery terminals providing improved sealing properties for forming undercut rings thereon comprising a fixture, a rolling station and a drive assembly; the fixture is configured to securely position the battery terminal in the rolling station. It includes the step of securing the battery terminal within a fixture (the battery terminal placed in a collet); and the method also includes the step of transforming a ring on the battery terminal from a first shape into a second different shape with at least one undercut or overhang (*Applicant's specification pages 2-7 and US'084 at COL 2, lines 20-65*). A radial rolling station is used to cold roll formed the battery terminal into a finished battery terminal (*Applicant's specification pages 2-7 and US'084 at COL 4, lines 25-40*). Thus, the foregoing implies the application of a radially compressive form to shape the acid rings on the battery terminal.

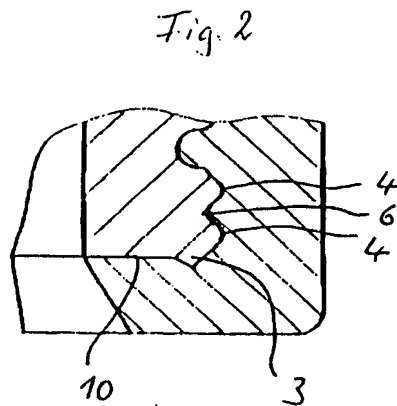
The AAPA discloses method of making battery terminals as discussed above. However, the AAPA does not expressly disclose the specific shape (acute angle, or angle less than 90°, or V-shaped groove) of the acid rings on the battery terminal.



In relation to claims 6, 9, 12, 17-18:

The GE'956 discloses connecting terminals for a battery having a connecting part 1 and a socket 7 with circumferential grooves 2 (ABSTRACT) to form a seal; wherein the lower edge of the socket part 7 includes a wedge profile to increase the sealing effect (ABSTRACT).

Specifically, **Figure 2** depicts grooves on the battery terminal having an acute angle; or angle less than 90°, or V-shaped groove (See reference numerals 4 and 6 below). The groove has at least two lips (see reference numerals 4).



In view of the above, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to shape the acid rings on the battery terminal of the AAPA to have either an acute angle, or angle less than 90°, or V-shaped groove as taught by the GE'956 as the GE'956 teaches that such groove (angle) configuration forms a seal and increase the sealing effect. Thus, it provides the advantage of improving sealing against the battery cover. Furthermore, this is consistent with the teachings of the AAPA that battery terminals are shaped to prevent the container from shrinking away from the terminal and upsetting the interface between the battery part and the container which could cause leakage of electrolyte. Generally, acid rings provide lateral engagement between the acid

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rings and the container (*Applicant's specification pages 2-7*) and are shaped to form a lateral restraint between the battery container and the terminal (*Applicant's specification pages 2-7*).

*Furthermore, it is noted changes in shape is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed acid rings (groove) is significant. In re Dailey, 149 USPQ 47. It is also noted that aesthetic design changes having no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art. In re Seid, 73 USPQ 431. (See MPEP 2144.04 [R-1] Legal Precedent as Source of Supporting Rationale).*

27. Claims 8, 11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

A) Applicant's Admission of Prior Art (herein the AAPA) (*Applicant's specification pages 2-7*) in view of the European publication EP 0601268 (heretofore the EP'268); and/or

B) Applicant's Admission of Prior Art (herein the AAPA) (*Applicant's specification pages 2-7*) in view of the German publication DE 4127956 (heretofore the GE'956)

as applied to claims 6 and 9 above, and further in view of Kipp 5316505 as evidenced by Peslerbe et al 2006/0127693.

The preceding prior art reference are applied, argued and incorporated herein for the reasons above. However, none of them fairly teaches the particles impinging/impacting to shape the battery terminal.

Kipp discloses a stamped battery terminal connected (TITLE/ABSTRACT/Col 3, lines 15-35).

Peslerbe et al is cited herein as an evidentiary reference to show that stamping is a technique for deforming metal materials or articles which encompasses deformation by impact (P0058 of Peslerbe et al) such as die stamping (P0059 of Peslerbe et al). *This implies that particles or materials having a hardness greater than the battery terminal material of Kipp are impacting or impinging surfaces thereof for shaping or mechanically deforming the battery terminal material.*

In view of the above, it would have been obvious to a person possessing a level of ordinary skill in the pertinent art at the time the invention was made to shape the battery terminal of AAPA, the EP'268 and the GE'956, as combined above, by using particles to impinge or impact the battery terminal as taught by Kipp as evidenced by Peslerbe et al as Kipp discloses that his stamped battery terminal is capable of reliably maintaining an electrical connection or contact with or within a battery by adding the benefit of having an economical construction associated with stamping operations; and it also permits the battery terminal element to be sized and structured to securely join, fasten or connect or clamp the battery terminal post.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Raymond Alejandro  
Primary Examiner  
Art Unit 1745

A handwritten signature in black ink, appearing to be 'RAYMOND ALEJANDRO', written over a circular stamp.

**RAYMOND ALEJANDRO  
PRIMARY EXAMINER**